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particularly of the pericambium. He finds these effects producible by injuries, depression of turgor, etc., which need only act in the past, while the growth of the lateral roots takes place under regular conditions.—C. R. B.

Soil fertility.—Two recent bulletins from the Bureau of Soils deal with the question of the factors affecting soil fertility. One, by LIVINGSTON and others,¹² demonstrates the presence in unproductive soils of substances deleterious to plant growth. He adds the evidence gathered up to the close of his work that the toxic substances are apparently produced by the plants themselves growing in soil and water cultures. He finds that such toxic substances can be dissolved partly in a watery extract of soil and may be removed from such an extract by shaking with finely divided insoluble solids. This leads to the further suggestion, partly supported by experiment, that stable manure and green fertilizers are beneficial rather by their action on the soil constituents, than by either the salts or the organic matter put at the disposal of the plants. Incidentally it was found necessary to devise methods for securing non-toxic distilled water. The most satisfactory water was prepared by shaking ordinary distilled water with fine, clean carbon black or precipitated ferric hydrate and filtering.

Developing the idea suggested by LIVINGSTON's work, SCHREINER and REED¹³ show that the toxic substances originate from the plants themselves, diffusing from their roots. This they demonstrate by direct experiment with seedling wheat and other plants, and support by adducing experiments and observations which have been accumulating for years, and can be best explained by their experimental results. It appears, for example, that the excreta from no other roots were so harmful to wheat as its own, and that the excreta from oats were more harmful to wheat than those from the less closely related corn and cowpea. The natural succession of plants, the deleterious effects of grass sod on apple trees, oak-openings, fairy rings, crop rotation, the effects of good tillage, can all be rationally explained in the light of the facts adduced.

SCHREINER and REED have also published the substance of this bulletin in another paper which requires only citation.¹⁴—C. R. B.

Items of taxonomic interest.—A. A. HELLER (*Muhlenbergia* 2:269-338. 1907), in an enumeration of plants collected in the coast region of California during 1907, describes new species in *Limnia* (*Claytonia*), *Lathyrus*, *Lupinus*, *Trifolium*, *Amsinckia*, *Stachys* (3), and *Plectritis* (2); and also proposes *Heleniaceae*, *Anthemidaceae*, and *Senecionaceae* as new families.—E. O. WOOTON and P. STANDLEY

¹² LIVINGSTON, B. E. Further studies on the properties of unproductive soils. U. S. Dept. Agric., Bureau of Soils, Bull. 36. pp. 71. pls. 7. 1907.

¹³ SCHREINER, O., and REED, H. S., Some factors influencing soil fertility. U. S. Dept. Agric., Bureau of Soils, Bull. 40. pp. 40. pls. 3. 1907.

¹⁴ SCHREINER, O., and REED, H. S., The production of deleterious excretions by roots. Bull. Torr. Bot. Club 34:279-303. 1907.

(Bull. Torr. Bot. Club 34:517-520. 1907) have described 2 new species of *Androsace* from New Mexico.—M. L. FERNALD (*Rhodora* 9:221-226. 1907) has described 3 new species and 2 new varieties of *Salix* from Eastern America.—K. YENDO (Jour. Coll. Sci. Univ. Tokyo 21: art. 12. pp. 174. pls. 18. 1907) has published (in English) a full account, with excellent plates, of "The Fucaceae of Japan" (61 species), including new species in *Cystophyllum* (2), *Coccophora*, and *Sargassum* (2), and also a new genus (*Ishige*).—J. BRIQUET (*Botanisk Tidskr.* 28:233-248. 1907), in describing the Labiatae from the Central Asian and Persian collections of OVE PAULSEN, describes a new genus (*Paulseniella*) in Stachyoideae.—S. KAWAMURA (Jour. Coll. Sci. Univ. Tokyo 23: art. 2. pp. 12. pls. 5. 1907) has described a new genus (*Miyoshia*) of Ascomycetes parasitic on the stems of a species of bamboo.—C. WARNSTORF (*Hedwigia* 47:113-127. 1908) has described the following new species of *Sphagnum* from the U. S.: *S. Mehmeri* (Alaska), *S. Faxonii* (Mass.), and *S. riparioides* (Alabama).—A. W. EVANS (*Torreya* 7:225-229. 1907) has described a new genus (*Leucolejeunea*) of Hepaticae, segregated from *Archilejeunea* and containing 5 species.—H. D. HOUSE (*idem* 233-235) has discovered that the generic name *Shortia* cannot be maintained for the interesting *S. galacifolia* of the southern Appalachians, on account of an earlier *Shortia* of RAFINESQUE; accordingly the name *Sherwoodia* is proposed and the names of the one American and the three Asiatic species are transferred.—W. W. EGGLESTON (*idem* 235, 236) has described a new *Crataegus* from New Mexico.—A. NELSON and P. B. KENNEDY (*Muhlenbergia* 3:137-143. 1908) have described new species from the Great Basin in *Lepidium*, *Boisduvalia*, *Chylisma*, *Oreocarya*, *Phlox*, *Plantago*, and *Symphoricarpos*.—F. RAMALEY (Univ. Col. Studies 5:47-63. 1907), in a list of the woody plants of Boulder County, Col., including the ranges, enumerates 112 species in 50 genera.—TH. VALETON (Bull. Depart. Agric. Ind. Néerland. 10. pp. 70. 1907), in a list of Papuan plants, describes 21 new species.—N. L. BRITTON (Bull. Depart. Agric. Jamaica 5: suppl. 1. pp. 19. 1907) has published a list of the sedges of Jamaica, enumerating 96 species, 37 of which belong to *Cyperus*.—G. MASSEE (Trans. N. Z. Inst. 39:1-49. pls. 1, 2. 1907), in his second paper on the fungus flora of New Zealand, presents the Polyporeae (9 gen., 47 spp.), Hydneae (4 gen., 8 spp.), Thelephoreae (10 gen., 36 spp.), Clavariaceae (2 gen., 11 spp.), and Tremellineae (9 gen., 15 spp.).—OAKES AMES (Philipp. Jour. Sci. 2:311-337. 1907) has published a list of the orchids of Mount Halcon and vicinity, Mindoro, 93 species being named, 39 of which are new.—C. S. SARGENT (Rep. Mich. Geol. Survey 1906:515-570. 1907) has published an account of the species of *Crataegus* in Southern Michigan, recognizing 55, of which 24 are described as new.—J. M. GREENMAN (Field Columb. Mus. Publ. Bot. Ser. 2:247-287. 1907) has published the results of his study of recent collections from Mexico, Central America, and the West Indies. The species number 92, of which 35 are described as new, one of them constituting a new genus (*Goldmania*) of Coreopsiadeae. Of *Senecio* 28 species are presented, 7 of which are new, and 18 of which are fully characterized for the first time.—J. M. C.